

	Domain	Flag	Path	Cookie_Name	Cookie_Value	Secure	Expiration
Cookie 1	acme.com	TRUE	/	Name	Alice	FALSE	12/31/99
...							
Cookie n	acme.com	TRUE	/	Role	manager	FALSE	12/31/99

Figure 1: An Example of Cookies on the Web

	Domain	Flag	Path	Cookie_Name	Cookie_Value	Secure	Expiration
IP_Cookie	acme.com	TRUE	/	IP_Cookie	129.174.100.88	FALSE	12/31/99
Pswd_Cookie	acme.com	TRUE	/	Pswd_Cookie	hashed_password	FALSE	12/31/99
KT_Cookie	acme.com	TRUE	/	Kerberos_Ticket	{Alice, K <sub>c,s</sub> }K <sub>s</sub>	FALSE	12/31/99
Sign_Cookie	acme.com	TRUE	/	Sign_Cookie	Signature_of_Alice	FALSE	12/31/99

Figure 2: Authentication Cookies

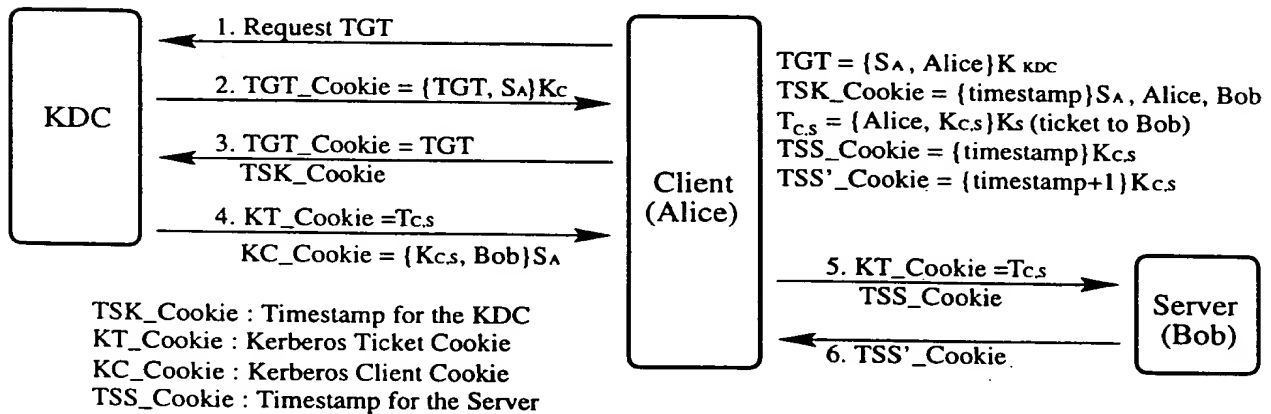


Figure 3: Kerberos-based Authentication with cookies

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	Domain	Flag	Path	Cookie_Name	Cookie_Value	Secure	Expiration
Cookie 1	acme.com	TRUE	/	Name	Alice*	FALSE	12/31/99
...							
Card_Cookie	acme.com	TRUE	/	Card	number::123456789*& exp_date::Jan.2000*	FALSE	12/31/99
Coupon_Cookie	acme.com	TRUE	/	Coupon	ID::123&off::10%*	FALSE	12/25/98
Pswd_Cookie	acme.com	TRUE	/	Pswd_Cookie	hashed_password	FALSE	12/31/99
Key_Cookie	acme.com	TRUE	/	Key_Cookie	encryped_key*	FALSE	12/31/99
Sealing Cookies							
Seal_Cookie	acme.com	TRUE	/	Seal_Cookie	Seal_of_Cookies**	FALSE	12/31/99

\* Sensitive fields can be encrypted in the cookies.

\*\* Seal of Cookies can be either MAC or signed message digest of cookies.

Pswd\_Cookie can be replaced with one of other authentication cookies in Figure 2

Figure 6: An Example of Secure Cookies for Electronic Transactions

	Domain	Flag	Path	Cookie_Name	Cookie_Value	Secure	Expiration
Cookie 1	acme.com	TRUE	/	Name	Alice*	FALSE	12/31/99
...							
Ticket_Cookie	acme.com	TRUE	/	Ticket	ID::456&Hours::10*	FALSE	12/25/98
Pswd_Cookie	acme.com	TRUE	/	Pswd_Cookie	hashed_password	FALSE	12/31/99
Key_Cookie	acme.com	TRUE	/	Key_Cookie	encryped_key*	FALSE	12/31/99
Sealing Cookies							
Seal_Cookie	acme.com	TRUE	/	Seal_Cookie	Seal_of_Cookies**	FALSE	12/31/99

\* Sensitive fields can be encrypted in the cookies.

\*\* Seal of Cookies can be either MAC or signed message digest of cookies.

Pswd\_Cookie can be replaced with one of other authentication cookies in Figure 2

Figure 7: An Example of Secure Cookies for Pay-per-Access

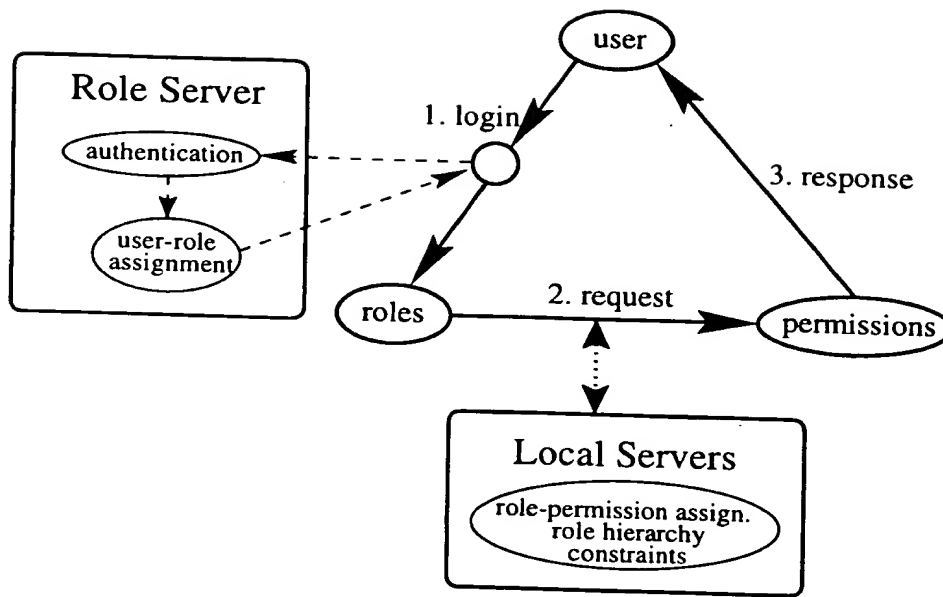


Figure 8: A Schematic of RBAC on the Web